

# Comparing Two Different Representations

NAME \_\_\_\_\_

DATE \_\_\_\_\_

PERIOD \_\_\_\_\_

1. Elena babysits her neighbor's children. Her earnings are given by the equation  $y = 8.40x$ , where  $x$  represents the number of hours she worked and  $y$  represents the amount of money she earned.

Jada earns \$7 per hour mowing her neighbors' lawns.

- a. Who makes more money after working 12 hours? How much more do they make?

Elena:  $8.40 \cdot 12 = \$100.80$

Jada:  $7 \cdot 12 = \$84$

Elena makes \$16.80 more

- b. What is the rate of change for each situation and what does it mean?

Elena: \$8.40 per hour

Jada: \$7 per hour

- c. Determine how long it would take each person to earn \$150.

Elena:  $\frac{150}{8.4} = 18$  hours

Jada:  $\frac{150}{7} = 22$  hours

2. Cara and John are tracking how much water they drink. John records that he drinks 54 ounces of water over 3 days. Cara writes the equation  $y = 21x$ , where  $y$  is the amount of water in ounces and  $x$  is the days, to describe how much water she has been drinking.

- a. Create an equation similar to Cara's to represent how much water John is drinking.

$y = \frac{54}{3}x \rightarrow y = 18x$

- b. How much water will they both drink in a week (7 days)?

John:  $18 \cdot 7 = 126$

Cara:  $21 \cdot 7 = 147$  oz.

- c. Who is drinking more water each day?

Cara

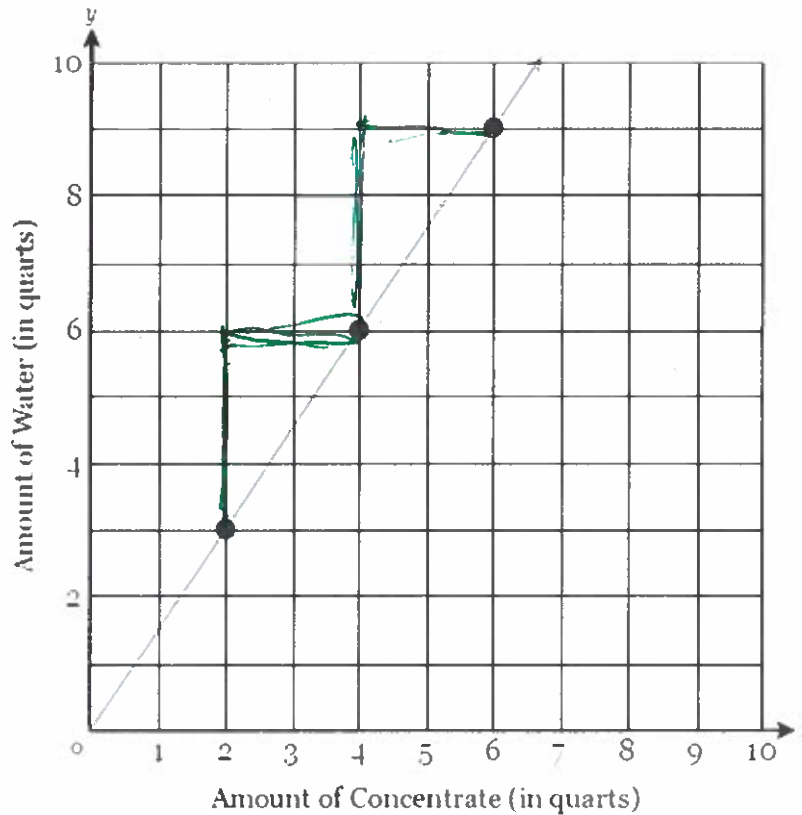
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3. Christopher is making lemonade from concentrate. The relationship between the number of quarts of concentrate,  $x$ , and the number of quarts of water,  $y$ , is represented by the graph below.



3 q H<sub>2</sub>O  
2 q Con.

- a. Write an equation to represent this situation using  $x$  to represent the quarts of concentrate and  $y$  to represent the quarts of water.

$$y = \frac{3}{2}x \rightarrow y = 1.5x$$

- b. Use your equation to complete the table.

Quarts of Concentrate	Quarts of Water
10	$10 \cdot 1.5 = 15$
$18 / 1.5 = 12$	18
1	1.5